

**Amendment # 2
to the
Record of Decision**

**Valley Wood Preserving Superfund Site
Turlock, CA**

**U.S. Environmental Protection Agency
Region 9
San Francisco, California**

March 2007

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Part 1: Declaration

A. Site Name and Location

The Valley Wood Preserving, Inc. (VWP) Superfund Site (EPA ID# CAD063020143), a former wood preserving facility, is located at 2237 South Golden State Boulevard on the southeast side of Turlock, Stanislaus County, California (the Site or VWP Site) (see Figure 1). In 1973, VWP began wood preserving operations that involved pressure-treating wood with a water-based solution containing chromium, copper, and arsenic. Wood preserving operations at the Site ceased in 1979 because these activities had resulted in on-site soil and groundwater contamination and off-site groundwater contamination. The contaminants of concern at the Site include hexavalent chromium and arsenic.

B. Statement of Basis and Purpose

This decision document presents the revised groundwater remedial actions selected by the U.S. Environmental Protection Agency (EPA) for the Valley Wood Preserving Superfund Site. These actions have been chosen in accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. § 9617, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR § 300.435(c)(2)(ii). This decision is based upon the Administrative Record for the Site.

The lead agency for the remedial effort at this Site is EPA; support agencies are the California Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board, Central Valley Region (CVRWQCB). The state agencies concur with the selected Amendment to the groundwater remedy contained in this Record of Decision Amendment (ROD Amendment #2) for the Site.

The response actions selected in the 1991 Record of Decision (ROD), as modified by the 1994 Explanation of Significant Differences (ESD), the 2003 ROD Amendment #1, and this ROD Amendment #2 are necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances, pollutants, and/or contaminants from this Site which may present an imminent and substantial endangerment to public health or welfare.

C. Assessment of Site

In 1973, VWP began wood preserving operations that involved pressure-treating wood with a water-based solution containing chromium, copper and arsenic. Wood preserving operations at the Site ceased in 1979 because these activities had resulted in on-site soil and groundwater contamination and off-site groundwater contamination. The contaminants of concern at the Site include hexavalent chromium and arsenic.

In 1989, EPA added the Site to the National Priorities List and became the lead regulatory agency for cleanup of the site. On September 27, 1991, EPA issued a Record of Decision (ROD) identifying cleanup remedies for contaminated soil and groundwater. This cleanup plan was updated in 1994 and again in 2003. VWP has implemented soil and groundwater cleanup activities at the Site, including excavation and off-site disposal of contaminated soil. Contaminated soil was cleaned to industrial use levels, thus some contamination remains in soil above levels that allow for unrestricted use. Currently, only residual levels of groundwater contamination remain at the Site.

D. Description of Selected Remedy

This ROD Amendment modifies the previously selected groundwater remedy for treating contaminated groundwater at the Valley Wood Preserving Superfund Site. These revisions affect both the groundwater cleanup standards and cleanup methodology selected in the 1991 ROD and revisions.

The groundwater remedy outlined in this ROD Amendment provides for: a) *in-situ* treatment to address residual levels of arsenic contamination in groundwater beneath and downgradient of the Site, b) monitored natural attenuation to address residual hexavalent chromium, any remaining levels of arsenic following the *in-situ* treatment, and secondary contaminants generated by the *in-situ* treatment, and c) a revised cleanup goal of 10 micrograms per liter ($\mu\text{g/L}$) for arsenic in groundwater impacted by Site activities.

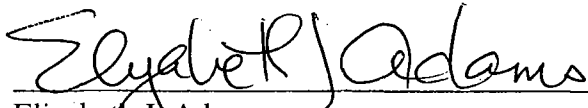
E. Statutory Determinations

The selected remedy is protective of human health and the environment, complies with all federal and state requirements that are applicable or relevant and appropriate (ARARs), and is cost-effective. This remedy utilizes solutions that are permanent, and satisfies Section 121 of CERCLA, 42 U.S.C. § 9621. This ROD Amendment #2 shall become part of the Administrative Record, as required by 40 C.F.R. § 300.825(a)(2) of the NCP.

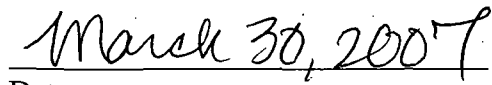
This remedy will result in hazardous substances remaining in soil on-site above health-based levels. Therefore, the Site becomes subject to the five-year review requirement. The five-year review is to provide assurance that the remedy remains

protective of human health and the environment. Reviews will be conducted every five years for as long as hazardous substances are present above health-based cleanup levels. The first review will occur in 2009, which is five years after the start of the recent soil remedial action.

Authorizing Signature



Elizabeth J. Adams
Chief, Site Cleanup Branch
Superfund Division



Date

Part 2: Decision Summary

A. Site Name, Location, and Brief Description

The Valley Wood Preserving Superfund Site (the Site) is located at 2237 South Golden State Boulevard in an unincorporated area of Stanislaus County, California. The Site is an inactive wood preserving facility, and lies roughly 1.5 miles southeast of the City of Turlock's boundary. The Merced County line is about 0.5 miles southeast of the Site. The Site is located within Section 25 of Township 5 South, Range 10 East, relative to the Mount Diablo base and meridian.

The immediate boundaries of the Site are South Golden State Boulevard to the east; a poultry farm to the south; agricultural/residential lots to the west; and a vineyard to the north. The primary land use in the Site vicinity is for agricultural purposes. The agricultural parcels near the Site are about 10 to 20 acres each, with associated residences. Neighboring properties use groundwater for domestic and agricultural purposes. All nearby domestic wells are screened in the deep water-bearing zone, where there has been no known impact from agricultural or industrial activity. There are approximately 3000 people living within one mile of the VWP Site.

B. Site History of Contamination and Prior Remedial Action

B1. State-lead Activities

Between 1973 and 1979, Valley Wood Preserving, Inc. (VWP) performed wood preserving activities at the Site. Solutions of 1 to 2 percent chromated-copper-arsenate (CCA) were mixed and stored in tanks on the Site. Lumber in loads of up to 20,000 pounds was placed into one of four pressure treatment cylinders and treated with the solution. After completion of the treatment, the lumber was removed from the cylinder and allowed to drip-dry on paved and unpaved areas on the Site. Known contamination sources at the Site include chemical drippings, chemical spills, leaking tanks, and on-site disposal practices common to that time.

In 1979, the California Regional Water Quality Control Board, Central Valley Region (CVRWQCB) identified the toxic chemicals chromium, copper, and arsenic on Site, within storage ponds, holding tanks, and in soils. These contaminants were also detected in the shallow, unconfined aquifer at the Site. In November 1979, the CVRWQCB issued a cleanup and abatement order to VWP. In 1980, the CVRWQCB obtained a preliminary injunction ordering VWP to perform ground water pump-and-treat actions at the Site. VWP commenced soil and ground water sampling in early 1980; however, remedial actions ceased in 1983 due to alleged financial difficulties.

In March 1987, the California Department of Health Services Division of Toxic Substances Control (now known as the California Department of Toxic Substances

Control, or DTSC) issued a remedial action order (RAO) to VWP. This order required VWP to conduct a remedial investigation and feasibility study and to develop a Remedial Action Plan (RAP).

B2. EPA-lead Activities

1991 Record of Decision

In March 1989, the U.S. Environmental Protection Agency (EPA) added the VWP Site to the National Priorities List (NPL), and soon thereafter became the lead agency for the remedial cleanup. EPA remains the lead agency; the DTSC and CVRWQCB are support agencies, with DTSC acting as the lead state agency.

In December 1989, VWP and EPA entered into an administrative order to perform emergency removal actions at the Site. The order required aquifer testing, an interim groundwater pump-and-treat system, and the design of a plan for alternate water supplies for affected neighboring residents. In January 1990, VWP installed three deep groundwater wells to serve as domestic water supply wells. In May 1990, VWP and EPA entered into a second administrative consent order, requiring VWP to conduct a remedial investigation/feasibility study (RI/FS). This EPA Order superseded the state's 1987 RAO. A baseline risk assessment (part of the RI/FS) indicated that exposure to ground water contaminated by chemicals from VWP could result in significant health risks. No significant ecological risks were identified. In June 1990, a pump-and-treat system began operation in order to control the migration of the contaminant plume.

In June 1991, the RI/FS was completed and concluded that: the contaminants of concern in both soil and ground water were hexavalent chromium and arsenic; the ground water plume was mobile and migrating towards domestic wells; additional investigation of the vertical extent of the groundwater plume was required; and remedial technologies were available for cleanup.

On September 27, 1991, EPA signed a Record of Decision (ROD) for the VWP Site. The ROD identified cleanup remedies for contaminated soil and groundwater. The remedy for the groundwater contamination was electrochemical treatment, in conjunction with the existing pump-and-treat system. Electrochemical treatment involves passing an electrical current through a contaminated solution. Ions that tend to have a positive charge in solution like chromium and arsenic would selectively migrate to the negatively-charged portion of the system, and then be collected and separated. For groundwater, the ROD selected cleanup standards of 50 micrograms per liter ($\mu\text{g/L}$) for total chromium (including hexavalent chromium) and 16 $\mu\text{g/L}$ for arsenic.

To address on-site contaminated soil, the ROD selected a remedy that included excavating contaminated soil, fixing and stabilizing the hazardous substances in the soil with a stabilizing agent, and backfilling the fixed-soils into the excavated areas. Measures such as covers of clean soil or other capping mechanisms would be taken to protect the surface of the fixed soil from physical decomposition. Institutional controls

would be required to ensure that future land-use practices would be compatible with the fixed-soil. Based on information available at the time of the 1991 ROD, it was estimated that 15,000 cubic yards of soil would be subject to remediation.

The 1991 ROD specified cleanup standards for soil based on applicable or relevant and appropriate requirements (ARARs) and health protection criteria. The surface soil cleanup standards were based on potential health risks from inhalation and direct contact, assuming unrestricted Site use (e.g., residential use). The standards were set at 4 milligrams per kilogram (mg/kg) for hexavalent chromium and 2 mg/kg for arsenic, which corresponded to a 1×10^{-6} excess cancer risk. The cleanup standard set at 2 mg/kg for arsenic was at or below background concentrations in soil in the Site vicinity. The subsurface soil cleanup standards were based on the protection of groundwater from contaminated leachate from the soil. The cleanup standards were set at 5 micrograms per kilogram ($\mu\text{g/kg}$) for both arsenic and hexavalent chromium as measured in the leachate from the subsurface soil. Those levels were based on the Designated Level Methodology for characterizing wastes in soil prepared by the CVRWQCB in June 1989.

1994 Explanation of Significant Differences

EPA modified the groundwater remedial action on December 9, 1994, in an Explanation of Significant Differences (ESD). The ESD modified the groundwater cleanup plan by allowing *in-situ* groundwater treatment through a site-wide pilot study. The ESD also approved adding the technology to the groundwater remedy if the desired results of the pilot study were achieved. The *in-situ* treatment pilot study consisted of re-injecting a mixture of treated groundwater and reductant solution into the aquifer and saturated soil in order to reduce hexavalent chromium concentrations in subsurface soil and groundwater. The groundwater pilot study was developed and implemented in 1998 and was discontinued in 1999.

During the pilot study, VWP continued to operate the pump and treat system for groundwater consistent with the initial cleanup plan, but rather than just discharging the treated water into the infiltration ponds, VWP amended the treated water with calcium polysulfide (an ionic reductant) and also reinjected it into the groundwater through a series of injection wells. The added calcium polysulfide reductant reacted with the hexavalent chromium, *in-situ*, reducing it to trivalent chromium, the less toxic and less soluble form of chromium. Trivalent chromium precipitated out of the groundwater onto subsurface soil particles and remains in the subsurface at the Site, where it no longer poses a threat to groundwater quality.

Residual calcium polysulfide from the *in-situ* treatment mobilized arsenic and manganese, and also generated sulfate, temporarily and locally causing increased concentrations of these contaminants in groundwater beneath the Site and down gradient of the VWP property. These temporary and localized concentration increases were expected as part of the pilot study.

The *in-situ* treatment of hexavalent chromium effectively reduced concentrations in groundwater such that EPA determined in 2004 that the groundwater extraction system could be shut down in order to implement the soil remedial action.

2003 ROD Amendment #1

On September 29, 2003, EPA issued a ROD Amendment modifying the cleanup plan for soil. The soil remedy initially selected in the ROD was to excavate the contaminated soil, fix and stabilize the hazardous substances with a stabilizing agent, and backfill the fixed soils into the excavated areas. The ROD Amendment revised the cleanup standards for soil consistent with the expected future industrial use of the property. It also revised the cleanup plan to require excavation and off-site disposal of contaminated soil that exceeded the revised cleanup standards. ROD Amendment #1 also included requirements for institutional controls to restrict residential use of the VWP property, including a zoning change and recording a restrictive covenant. The zone change was approved by the Stanislaus County Board of Supervisors in 2005 and the Land Use Covenant will be finalized in 2007. The Department of Toxic Substances Control developed the draft Land Use Covenant which is currently undergoing review. The final version of the LUC will be signed by VWP, EPA and DTSC and must be recorded with the Stanislaus County Records office.

C. Basis for ROD Amendment #2

Under Section 117 of CERCLA, 42 U.S.C. § 9617, and pursuant to Section 300.435(c)(2)(ii) of the NCP, 40 CFR § 300.435(c)(2)(ii) (55 Fed. Reg. 8666, 8852 (March 1990)), EPA is required to issue a ROD Amendment when fundamental changes are made to a final remedial action plan as described in a ROD. EPA is making these changes to the ROD to: (1) address residual levels of groundwater contaminants; and (2) revise cleanup standards that are appropriate for the Site. Effective February 22, 2002, EPA revised the federal drinking water standard for arsenic from 50 µg/L to 10 µg/L. This ROD Amendment revises the arsenic cleanup goal to be consistent with the revised federal drinking water standard.

Contaminated groundwater represents the primary remaining source of risk at the site. Most of the groundwater contamination and soil contamination has been addressed through prior remedial actions. Hexavalent chromium and arsenic are the two primary constituents of concern that remain in groundwater at the Site. Contamination is confined to the Upper Saturated Zone. Three wells show hexavalent chromium concentrations exceeding the Total Chromium cleanup goal of 50 µg/L. The concentrations in these wells are approximately 70 µg/L. The impacted wells are located in the area immediately adjacent to the former wood treating area (see Figure 3).

Four wells show arsenic concentrations exceeding the current drinking water standard of 10 µg/L. Arsenic concentrations in these wells range from approximately 150 µg/L to

20 µg/L. The four impacted wells are also located in the former wood treating area (two of the wells have both hexavalent chromium and arsenic impact). (See Figure 5).

In 2005, VWP prepared and submitted an arsenic background study titled, "Report on Lithological Implications of Background Concentrations of Arsenic in Groundwater." EPA, the CVRWQCB, and DTSC approved the report and reached general agreement with the conclusions of the report including:

- Background levels of arsenic in the upper oxidized zone and the confined aquifer appear to be below 10 micrograms/liter (ug/L), and
- Background arsenic levels in the reduced zone appear to be between 15 and 25 ug/L and that this zone has not been impacted by VWP wood-treating activities.

C1. Summary of Alternatives

The following remedial alternatives were evaluated in the Focused Feasibility Study to address residual groundwater contamination at the Site (also see Table 1). The Focused Feasibility Study was prepared by Valley Wood Preserving at the direction of EPA. It was approved in March 2007.

1. **No Action** – Under this alternative, no further remedial action would be taken and no groundwater monitoring would be conducted.
2. **Monitored Natural Attenuation** – This alternative relies on natural processes (biological and/or geochemical) to clean up contamination in groundwater. This alternative includes a monitoring program to verify that the natural attenuation is occurring according to predictions and that cleanup standards are achieved.
3. **Additional *In-situ* Treatment and Monitored Natural Attenuation** – This alternative involves *in-situ* treatment of contaminated groundwater to address areas of contamination where concentrations of arsenic remain above cleanup standards. This alternative also relies on natural processes (biological or geochemical) in addition to the *in-situ* treatment to clean up arsenic and hexavalent chromium contamination in groundwater. This alternative includes a monitoring program to assess progress towards cleanup standards.

D. Selected Remedy

This ROD Amendment #2 selects Alternative 3 - Additional *In-Situ* Treatment and Monitored Natural Attenuation - because it will achieve cleanup standards within the shortest period of time and will cost less than Alternative 2.

The remedial action will meet final Site cleanup standards for groundwater that are consistent with federal and state Maximum Contaminant Levels (MCLs) for drinking

water. The cleanup standard for Total Chromium (including hexavalent chromium) is 50 $\mu\text{g/L}$ (consistent with the California MCL for total chromium in drinking water). This ROD Amendment also revises the site cleanup goal for arsenic to 10 $\mu\text{g/L}$ for shallow groundwater where site impacts have been observed. This is consistent with the current federal MCL for arsenic. The cleanup goal for arsenic will be stricter than the original 1991 cleanup plan (at which time the federal MCL was 50 ppb). There is a deeper groundwater zone where no facility contamination has migrated, but where naturally-occurring arsenic concentrations are higher than the revised federal MCL, in the range of 20 to 25 ppb. This zone is not addressed by the selected cleanup plan because the elevated arsenic levels here are not caused by contamination from the Site. These naturally occurring arsenic levels are confined to a groundwater zone that is not used for drinking water.

In addition, the remedial action will include monitoring two additional constituents, sulfur and manganese, which were released as a by-product to the earlier *in-situ* pilot study. It is expected that the levels of these constituents will decrease to original concentrations within the timeframe of the remedial action.

E. Remedial Action Objectives

The Remedial Action Objectives (RAOs) describe what the selected Site cleanup is expected to accomplish. The RAO for groundwater is to restore groundwater to its beneficial use within a reasonable time frame. The selected remedial action will address residual hexavalent chromium and arsenic in groundwater beneath the Site. Contaminated soil and most of the off-property contaminated groundwater have been addressed through prior remedial actions.

F. Evaluation of Alternatives under NCP Criteria

Based on the information presented in the Focused Feasibility Study, EPA considered a limited range of alternatives to reduce the risk from potential exposure to contaminated groundwater. Each of the alternatives was compared against the nine criteria for evaluating alternatives established in the NCP.

Alternative 1 – No Action

Estimated Cost = \$0

In this alternative, no further action is taken to clean up the groundwater at the Site and no groundwater monitoring would be conducted. EPA is required to consider a No Action alternative to serve as a baseline for comparison with other remedial alternatives. There is no cost associated with this alternative. It would provide the least overall protection to human health and the environment because EPA would not monitor any natural attenuation of contamination that may or may not occur. The No Action alternative does not meet EPA remedial action objectives and does not comply with either state or federal requirements.

Alternative 2 – Monitored Natural Attenuation**Estimated Cost** = \$414,995 (Net present value at 8% discount rate)

This remedial alternative relies on natural processes (biological and geochemical) to clean up or attenuate contamination in groundwater. According to 1999 EPA guidance titled, “Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Use” (OSWER Directive 9200.4-17P) there are several requisite conditions that must be in effect for Monitored Natural Attenuation to be effective at the Site. These requisite conditions include: removal of contaminant sources and presence of natural attenuation capabilities in the sub-surface. These requisite conditions have been examined in greater detail in the Focused Feasibility Study and have been met.

VWP implemented the soil remedy in July 2004, which removed the source of arsenic and hexavalent chromium contamination through excavation and off-site disposal of contaminated soil. Natural attenuation capabilities appear to be present at the Site since hexavalent chromium and arsenic concentrations in groundwater have been declining with time (even after the termination of the pump and treat system in 2004).

This alternative requires continued groundwater monitoring to demonstrate that natural attenuation is occurring and to determine when cleanup standards have been achieved. The trend analysis included in the Focused Feasibility Study indicates that this alternative may take decades to achieve cleanup standards. The long time period is associated with reaching arsenic cleanup standards in the western area of the VWP property.

Alternative 3 - Additional *In-situ* Treatment and Monitored Natural Attenuation**Estimated Costs** = \$299,740 (Net present value at 8% discount rate)

This alternative was the preferred alternative in the January 2007 Proposed Plan. Residual concentrations of arsenic in groundwater would be addressed using an *in-situ* treatment technology, followed by MNA. There are several different *in-situ* treatment options that may be appropriate for addressing arsenic in groundwater at the Site. Specific *in-situ* treatment will be evaluated through a Treatability Study conducted in the Remedial Design phase of the project. *In-situ* treatment options may include introducing oxygen into the aquifer to promote the adsorption of arsenic onto soil particles. Oxygen can also be introduced by air sparging and/or the use of calcium peroxide or sodium persulfate, a time-release form of oxygen addition. Additionally, substances specifically designed for arsenic cleanup can be added to the groundwater to permanently reduce the concentrations of arsenic.

The hexavalent chromium concentrations in groundwater are currently low enough that additional *in-situ* treatment is not necessary to achieve cleanup standards. Based on the evaluation in the Focused Feasibility Study, hexavalent chromium levels should continue to decrease through natural attenuation.

This remedial alternative also relies on monitored natural attenuation (described above) following *in-situ* treatment to meet cleanup standards. The trend analysis included in the Focused Feasibility Study shows that this alternative is expected to take approximately four years to meet cleanup standards.

G. Nine NCP Criteria

To select a remedy, EPA uses the nine criteria set forth in the NCP and CERCLA Section 121 to evaluate each remediation alternative and compare them against each other. The nine evaluation criteria are:

1. Overall Protection of Human Health and the Environment
2. Compliance with ARARs
3. Long-term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility, or Volume through Treatment
5. Short-term Effectiveness
6. Implementability
7. Cost
8. State Acceptance
9. Community Acceptance

Of the above criteria, numbers 1 and 2 are considered Threshold Criteria, denoting that both criteria must be met for a remedy to be considered. The criteria numbered 3 through 7 above are considered Primary Balancing Criteria, reflecting that they are used for further evaluating the remedial alternatives. The criteria numbered 8 and 9 are considered during the final remedy selection process. With an evaluation based upon these criteria, EPA's selected alternative is Alternative 3 - Additional *In-situ* Treatment and Monitored Natural Attenuation (see Table 1).

The Focused Feasibility Study for the Site dated January 19, 2007 provides a more detailed evaluation of each alternative with respect to seven of the nine criteria (state and community acceptance were not evaluated in the FFS). This ROD Amendment summarizes the detailed discussion covered by the Focused Feasibility Study.

Alternative 1 (No Action) provides the least protection to human health and the environment, does not meet state or federal requirements, and does not meet the remedial action objectives. Thus, Alternative 1 cannot be selected.

Alternative 2 (Monitored Natural Attenuation) and Alternative 3 (Additional *In-situ* Treatment and Monitored Natural Attenuation) can both be implemented to satisfy the Threshold Criteria (Overall Protection of Human Health and the Environment and Compliance with ARARs). Both Alternatives are protective of human health and the environment and both alternatives would comply with the ARARs. The ARARs for this remedial action include applicable provisions of the California Safe Drinking Water Act

and the Porter Cologne Water Quality Control Act (California Water Code), as implemented through the respective state regulations, among others (see Table 2).

Alternative 3 was selected by evaluating the balancing criteria (#3 through #7 above). Alternative 3 fully meets all of the evaluation criteria and is ranked higher than Alternative 2 because it is expected to achieve cleanup standards much sooner than Alternative 2 and is also expected to cost less than Alternative 2. EPA believes the preferred alternative is protective of human health and the environment and would result in meeting the groundwater remedial action objective for the Site, which is to restore groundwater to its beneficial uses within a reasonable time period.

Based on the information currently available, EPA believes that the Preferred Alternative, Alternative 3, meets the Threshold Criteria and meets, or exceeds, the other alternatives in terms of the Balancing Criteria. EPA expects the Preferred Alternative to satisfy the statutory requirements in CERCLA Section 121(b): 1) to be protective of human health and the environment; 2) to comply with state and federal guidelines and regulations; 3) to be cost effective; 4) to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable; and 5) to satisfy the preference for treatment as a principal element.

H. Support Agency Acceptance

EPA has consulted with the State of California regulatory agencies (DTSC and CVRWQCB) on the selected remedial alternative. The State Agencies concur with the selected remedial alternative and document State concurrence in a letter to EPA dated March 30, 2007.

I. Public Participation Activities

EPA issued a Proposed Plan on February 7, 2007, and held a thirty-day public comment period from February 7 to March 8, 2007. A public meeting was held in Turlock on February 13, 2007, where EPA presented all of the alternatives and its preferred alternative. Members of the community had an opportunity to ask questions and comment. EPA provided this opportunity to encourage maximum public participation in the ROD Amendment process for the Site, as required by 40 C.F.R. § 300.435(c)(2)(ii). No comments from the community were received at the meeting or during the public comment period. Ten individuals attended the Public Meeting held on February 13, 2007 and several people asked questions. No one voiced significant concerns or objections to the proposed remedy.

J. Statutory Determinations

EPA believes that the groundwater remedy as modified by this ROD Amendment remains fully protective of human health and the environment, complies with all state and federal requirements that are applicable or relevant and appropriate to this remedial

action, and is cost-effective. In addition, the groundwater remedy satisfies the statutory preference for remedies that employ treatment that permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances located at a Site, consistent with Section 121(b)(1) of CERCLA, 42 U.S.C. § 9621(b)(1) (see Table 2).

PART 3: Responsiveness Summary

A proposal for revising the groundwater cleanup remedy, termed the Valley Wood Preserving Superfund Site Proposed Plan (the Proposed Plan) was issued in February 2007. The Proposed Plan described the alternatives considered by EPA and identified EPA's preferred remedial alternative for residual groundwater cleanup at the Site. In accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. § 9617(a), EPA announced the public availability of the Proposed Plan in order to solicit input. Public comments were requested in writing from February 7, 2007 through March 8, 2007; however, it was emphasized that comments would also be accepted by mail, fax, or over the phone during that 30-day period. In addition, EPA held a public meeting on February 13, 2007 at the Veterans of Foreign Wars Hall in Turlock, California. The purpose of this public meeting was to discuss the Proposed Plan and answer questions about the alternatives considered, and provide an opportunity for public comments.

A. Stakeholder Comments and Responses

No formal comments were received during the public comment period and no comments were recorded in the formal transcript of the public meeting. However, there were a few questions raised "off the record" during the public meeting, and those are summarized below, including EPA's responses.

Q: When will the site cleanup be complete?

A: Based upon using the groundwater remedy recommended in the Proposed Plan, the groundwater cleanup is expected to take four years and may require an additional year or two to be considered clean.

Q: I have some monitoring wells on my property that were installed as part of the groundwater remedy. When will VWP be able to abandon the wells?

A: VWP will submit a revised groundwater monitoring plan to EPA as a component of implementing the final groundwater remedy. At that time, EPA will evaluate abandoning certain monitoring wells, while keeping others that are necessary to monitor the results of the groundwater remedy.

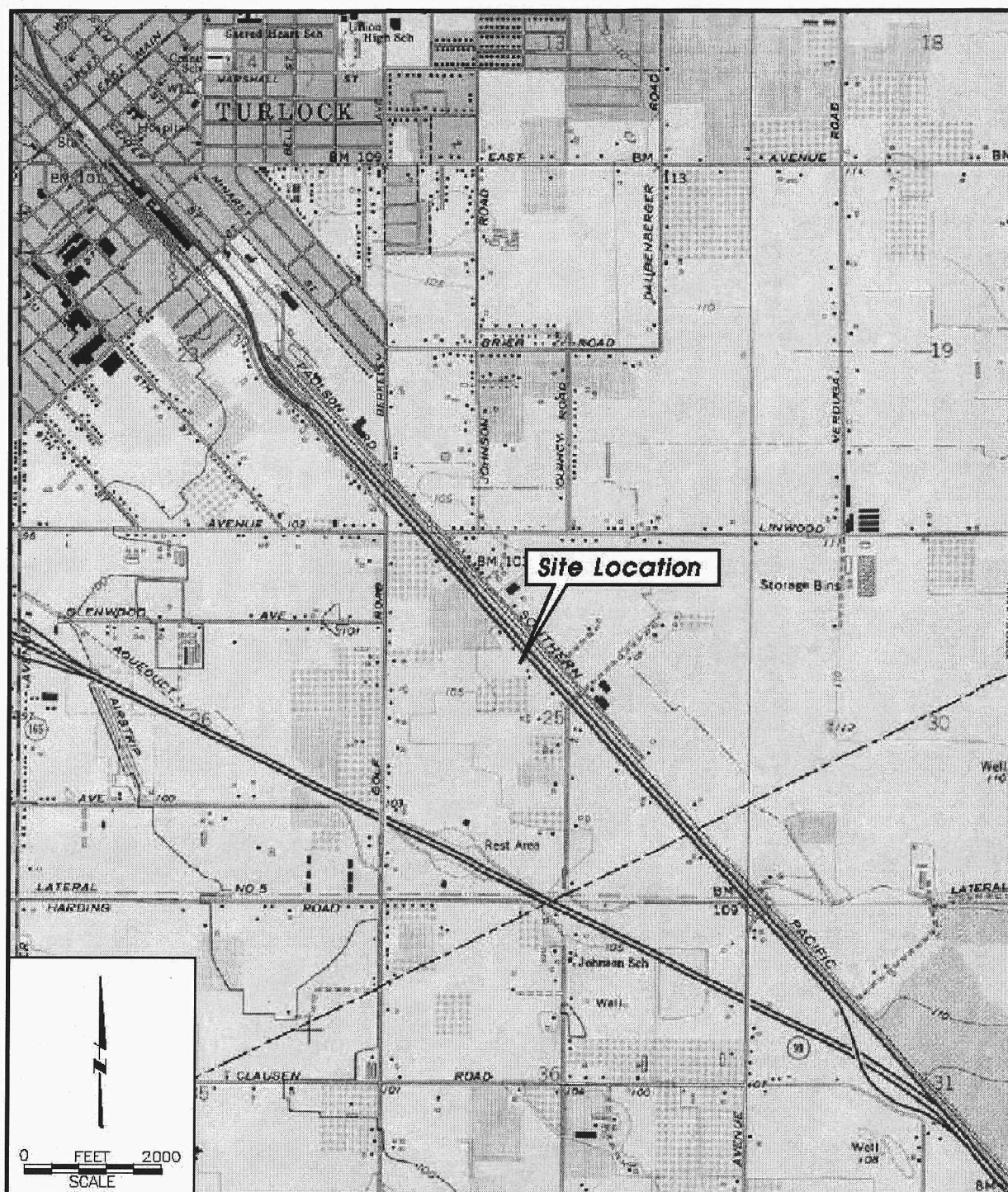


Figure 1: Site Location Map

Figure 2. Past Hexavalent Chromium Plume

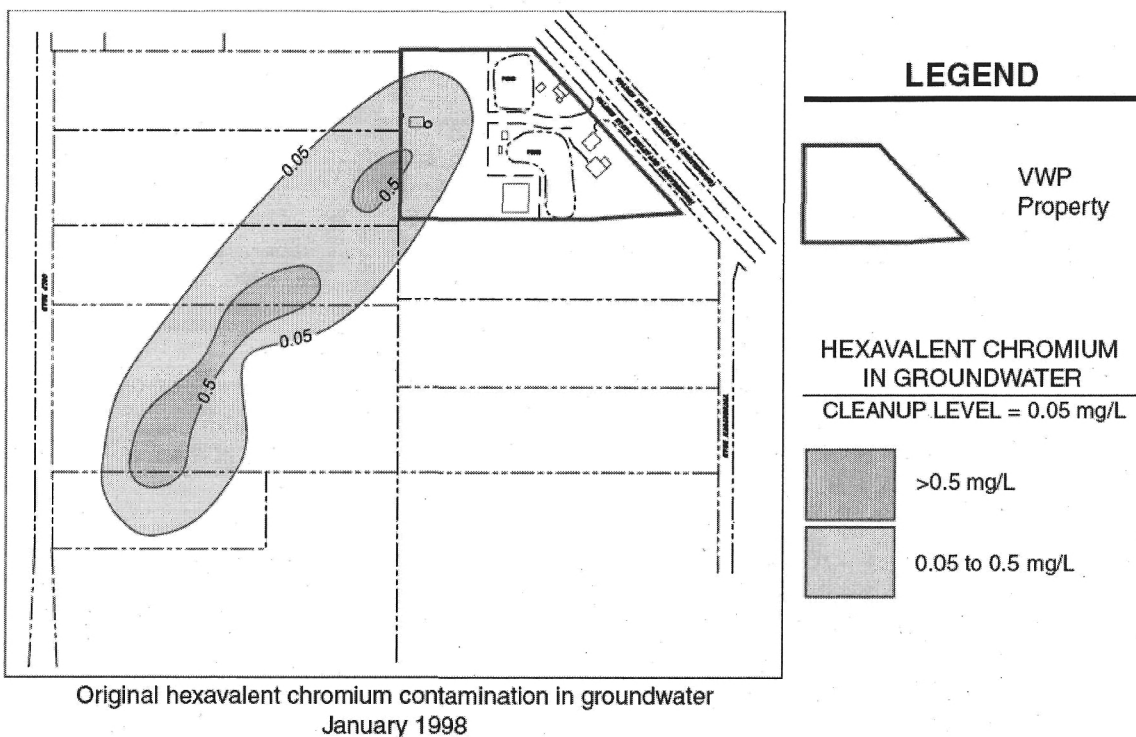


Figure 3. Present Hexavalent Chromium Plume

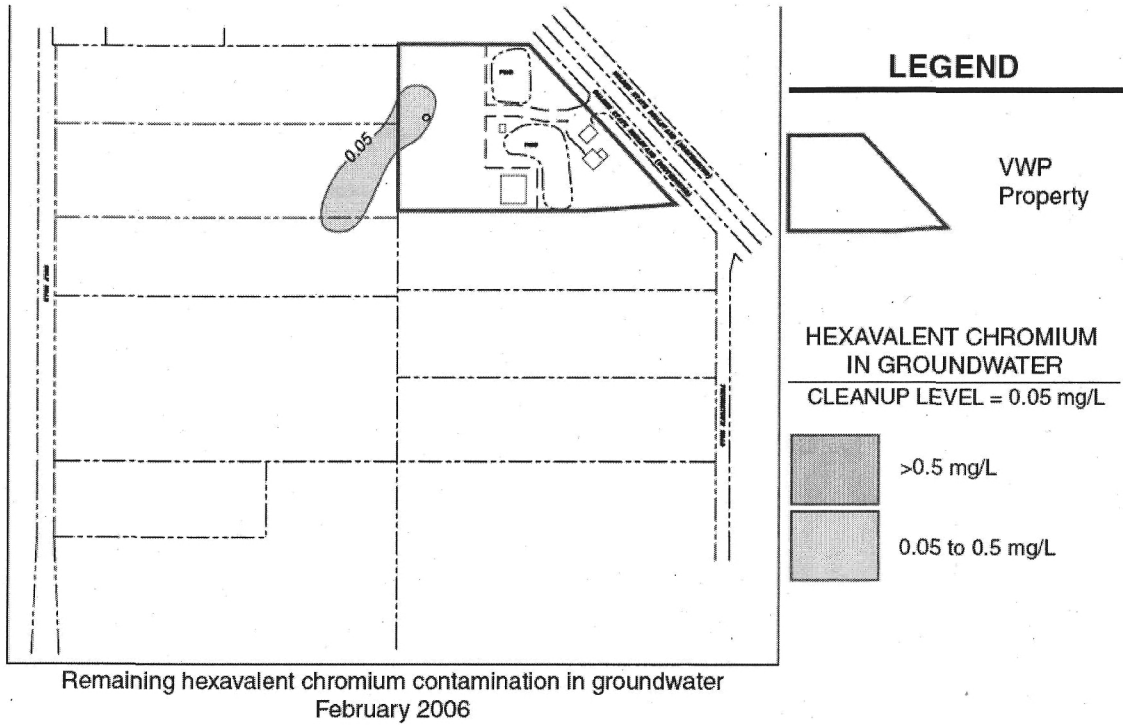


Figure 4. Past Arsenic Plume (Upper Saturated Zone)

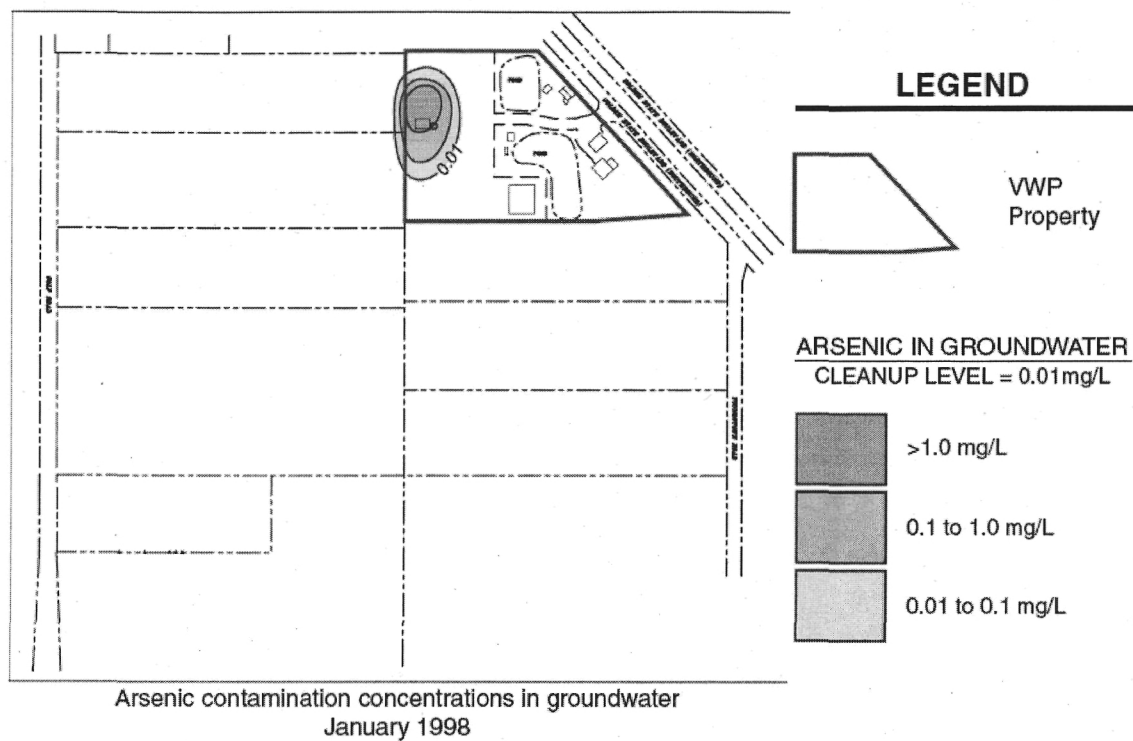


Figure 5. Present Arsenic Plume (Upper Saturated Zone)

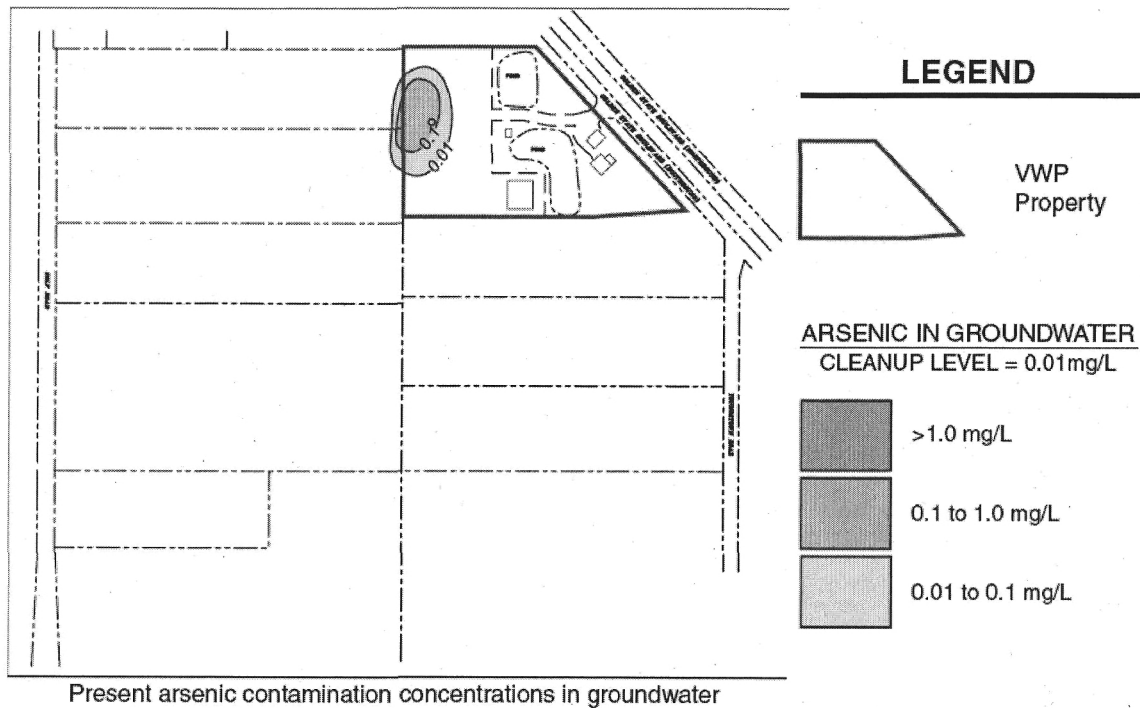


Table 1. Alternative Evaluation Table

Evaluation Criteria	Alternative 1 No Action	Alternative 2 Monitored Natural Attenuation	Alternative 3 Additional <i>In-situ</i> Treatment and Monitored Natural Attenuation
Overall Protection of Human Health and the Environment	Does not meet criteria	Fully meets criteria	Fully meets criteria
Compliance with ARARs	Does not meet criteria	Fully meets criteria	Fully meets criteria
Long-term Effectiveness and Permanence	Does not meet criteria	Fully meets criteria	Fully meets criteria
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment	Does not include any treatment	Does not meet criteria as MNA relies on natural processes to reduce toxicity, mobility, and volume, not treatment.	Fully meets criteria – Uses <i>In-situ</i> treatment to reduce mobility of arsenic
Short-term Effectiveness	Does not meet criteria	Partially meets criteria	Fully meets criteria
Implementability	No implementability issues	Fully meets criteria	Fully meets criteria
Cost	\$0	\$414,995	\$299,740
State Acceptance	The State Agencies concur with the selected remedy and submitted a concurrence letter to EPA on March 30, 2007.		
Community Acceptance	No comments were received opposing the proposed remedy during the public comment period. Additionally, no comments were received recommending a different alternative.		

Table 2. Applicable or Relevant & Appropriate Requirements

Standard, Requirement, Criteria or Limitation	Citation	Category (Applicable, Relevant & Appropriate)	Description	Comments
California Safe Drinking Water Act, Title 22, CCR 64400 et. Seq.	California Health & Safety Code, Sections 4010 et. Seq.	Relevant & Appropriate	Requirements for public water systems. Includes Maximum Contaminant Level (MCL) for Chromium of 50 ug/L which is more stringent than the federal MCL.	Groundwater sources beneath the site are not statutorily excluded from use as a "public water system" therefore this citation is relevant and appropriate to the groundwater remedies examined in the FFS.
RWQCB, CVR (Basin Plan), "Policy for Investigation and Cleanup of Contaminated Sites."	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Establishes and describes policy for investigation and remediation of contaminated sites. Also includes implementation actions for setting groundwater and soil cleanup levels.	Cleanup levels for chemicals of potential concern should be compared to those that will not exceed applicable groundwater quality objectives
RWQCB, CVR Basin Plan, "Policy for Application of Water Quality Objectives."	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	This policy defines water quality objectives and explains how the RWQCB applies numerical and narrative water quality objectives to ensure the reasonable protection of beneficial uses of water and how the RWQCB applies Resolution No. 68-16 to promote the maintenance of existing high quality waters.	Applicable to cleanups where releases (or discharges) may affect water quality.
State Water Resources Control Board Resolution No. 68-16 ("Antidegradation Policy")	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Requires that high quality surface and groundwater be maintained to the maximum extent possible. Degradation of waters will be allowed (or allowed to remain) only if it is consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that prescribed in RWQCB and SWRCB policies. If degradation is allowed, the discharge must meet best practicable treatment or control, which must prevent pollution or nuisance and result in the highest water quality consistent with the maximum benefit to the people of the state.	Applicable, establishes that the remaining contaminants will not be degrade the quality of the waters of the state of California, unless degradation is consistent with the maximum benefit of the people of the state. In no case may water quality objectives be exceeded. Where degradation is not remedied, the Board may not concur with the ROD.
State Water Resources Control Board Resolution No. 92-49 (As amended April 21, 1994)	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Establishes policies and procedures applicable to all investigations, and cleanup and abatement activities, for all discharges which affect or threaten water quality.	Applies to all cleanups of discharges that may affect water quality.
State Water Resources Control Board Resolution No. 88-63 ("Sources of Drinking Water Policy") (as contained in the RWQCB's Water Quality Control Plan)	Porter Cologne Water Quality Control Act (California Water Code Sections 13304, Section III G only)	Applicable	Specifies that, with certain exceptions, all ground and surface waters have the beneficial use of municipal or domestic water supply.	Applies to groundwater response actions as the RWQCB considers all groundwater in the state a potential municipal or drinking water source.
Federal Maximum Contaminant Level for Arsenic	Safe Drinking Water Act and implementing regulations (40CFR Part 141)	Applicable	The Federal MCL for arsenic is 10 micrograms per liter (ug/L)	The Arsenic Rule (66 Fed. Reg. 6976) was published on January 22, 2001

Table 3. Chemical-Specific Groundwater Cleanup Standards

<u>Constituent of Concern</u>	<u>Maximum Contaminant Level</u>
Total Chromium (including hexavalent chromium)	50 micrograms per liter ($\mu\text{g/L}$) ¹
Arsenic	10 $\mu\text{g/L}$ ²

¹ The chromium cleanup goal of 50 $\mu\text{g/L}$ is the California primary drinking water MCL for total chromium since no specific drinking water standard for hexavalent chromium currently exists.

² The cleanup goal for arsenic in the shallow and deeper confined aquifer of 10 $\mu\text{g/L}$ is the new federal drinking water maximum contaminant level (MCL). The 1991 ROD originally specified a cleanup goal of 16 $\mu\text{g/L}$ based on Site background (at that time, the MCL for arsenic was 50 $\mu\text{g/L}$). The EPA-approved report *Lithological Implications of Background Concentrations of Arsenic in Groundwater* (MWH, 2005) provides the basis for new background determinations for arsenic depending on the aquifer zone due to natural redox variations. In particular, background for arsenic is in the range of 0.015 to 0.025 mg/L in the naturally-reduced aquitard separating the upper saturated zone, or shallow aquifer, and the deeper confined aquifer.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MEMORANDUM

To: Elizabeth Adams
Chief, Site Cleanup Branch
Superfund Division

From: Dana Barton *Dana Barton*
Remedial Project Manager
KS/for
Sara Goldsmith
Staff Attorney

Date: March 30, 2007

Re: Amendment #2 to the Record of Decision
Valley Wood Preserving Site
Turlock, Stanislaus County, California

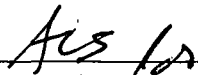
This memorandum transmits the Amendment #2 to the Record of Decision for the Valley Wood Preserving Superfund Site. This ROD Amendment modifies the previously selected groundwater remedy for treating contaminated groundwater at the Valley Wood Preserving Superfund Site. These revisions affect both the groundwater cleanup standards and cleanup methodology selected in the 1991 ROD and revisions.

The groundwater remedy outlined in this ROD Amendment provides for: a) *in-situ* treatment to address residual levels of arsenic contamination in groundwater beneath and downgradient of the Site, b) monitored natural attenuation to address residual hexavalent chromium, any remaining levels of arsenic following the *in-situ* treatment, and secondary contaminants generated by the *in-situ* treatment, and c) a revised cleanup goal of 10 micrograms per liter ($\mu\text{g/L}$) for arsenic in groundwater impacted by Site activities.

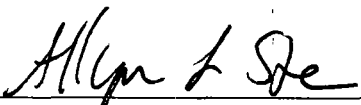
EPA has consulted with the State of California regulatory agencies (DTSC and CVRWQCB) on the selected remedial alternative. The State Agencies concur with the

selected remedial alternative and document State concurrence in a letter to EPA dated March 30, 2007.

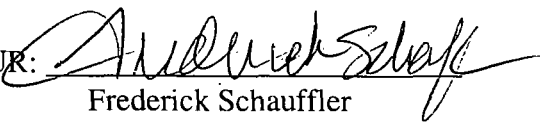
EPA issued a Proposed Plan on February 7, 2007, and held a thirty-day public comment period from February 7 to March 8, 2007. A public meeting was held in Turlock on February 13, 2007, where EPA presented all of the alternatives and its preferred alternative. Members of the community had an opportunity to ask questions and comment. EPA provided this opportunity to encourage maximum public participation in the ROD Amendment process for the Site, as required by 40 C.F.R. § 300.435(c)(2)(ii). No comments from the community were received at the meeting or during the public comment period. Ten individuals attended the Public Meeting held on February 13, 2007 and several people asked questions. No one voiced significant concerns or objections to the proposed remedy.

CONCUR: 
Lewis Maldonado
Section Chief

DATE: 3/30/07

CONCUR: 
Allyn Stern
Branch Chief

DATE: 3/30/07

CONCUR: 
Frederick Schauffler
Superfund Section Chief

DATE: 3/30/07